

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A piezo-electric actuator comprising:

a piezo-electric element having a piezo-electric body which is provided with at least two opposing surfaces, wherein the surfaces perform an expanding and contracting motion in accordance with a state of an electric field;

a constraint member for constraining the piezo-electric element on at least one of the two surfaces,

a supporting member disposed around the constraint member, but not below the constraint member, and

a plurality of beam members each having both ends that are fixed to the constraint member and the supporting member, respectively, wherein each beam member has a neutral axis for bending in a direction substantially parallel with the constrained surface,

wherein the constraint member vibrates by vibration which is generated by constraining effect between the constraint member and the piezo-electric element, and is amplified by the beam members,

wherein said beam members are straight beams, and

wherein said beam members are made of resin.

2. (canceled).

3. (previously presented) The piezo-electric actuator according to claim 1, wherein said constraint member has a base for constraining said piezo-electric element, and a plurality of arms that extend from said base to constitute said beam members.

4. (previously presented) The piezo-electric actuator according to claim 1, wherein said constraint member is a second piezo-electric element which differs in vibrating direction from said piezo-electric body.

5. (previously presented) The piezo-electric actuator according to claim 1, wherein said piezo-electric element comprises a plurality of said piezo-electric bodies and a plurality of electrode layers for applying an electric field to said piezo-electric bodies, wherein each piezo-electric body and each electrode layer is alternately laminated.

6. (previously presented) The piezo-electric actuator according to claim 1, wherein said piezo-electric element is provided with an insulating layer on at least one of said two surfaces.

7. (previously presented) The piezo-electric actuator according to claim 1, wherein said piezo-electric element has a rectangular parallelepiped shape.

8. (previously presented) An acoustic element comprising:
the piezo-electric actuator according to claim 1; and
a vibrating film coupled to said piezo-electric actuator for radiating sound through vibration that is transmitted from said piezo-electric actuator.

9. (original) The acoustic element according to claim 8, further comprising a vibration transmitting member sandwiched between said piezo-electric actuator and said vibrating film.

10. (previously presented) An electronic device comprising the piezo-electric actuator according to claim 1.

11. (previously presented) An electronic device comprising the acoustic element according to claim 8.

12. (previously presented) An acoustic apparatus comprising a plurality of said acoustic elements according to claim 8 which have resonance frequencies different from each other for smoothing frequency response of sound pressure.

13. (original) An electronic device comprising said acoustic apparatus according to claim 12.

14. (currently amended) The piezo-electric actuator according to claim 1, wherein the constraint member is made of and the plurality of beam members are made of metal or resin.

15. (previously presented) The piezo-electric actuator according to claim 1, wherein the constraint member and the plurality of beam members are integrated.

16. (previously presented) The piezo-electric actuator according to claim 1, wherein at least two beam members extend radially from the center of the constraint member.